

The listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Please cancel Claims 3, 19, and 24.

1. (Currently Amended) A method for preventing alpha particle radiation emissions from being emitted from radioactive material-containing waste material into an environment comprising:

forming a first admixture by admixing with the waste material, a chemical additive polymer wherein the polymer is not a superplasticizer selected from mineral oil, charcoal, activated carbon, and sulfur, with the waste material to encapsulate the radioactive material within the chemical additive polymer wherein the chemical additive polymer prevents alpha particle radiation emissions from passing through the polymer chemical additive.

2. (Original) The method of Claim 1, wherein the radioactive material is radon.

3. (Cancelled).

4. (Currently Amended) The method of Claim 1, wherein the chemical additive polymer is added in an amount of from about 0.1 to about 30 percent by weight based on the amount of waste material.

5. (Currently Amended) The method of Claim 1, further comprising applying a polymer sealant to an exterior of the chemical additive~~polymer~~/waste material admixture to further prevent alpha particles from being emitted into the environment.

6. (Currently Amended) The method of Claim 1, further wherein the admixture of chemical additive ~~polymer~~ and waste material is admixed with a shielding material such that the chemical additive ~~polymer~~-waste material admixture is incorporated within the shielding material.

7. (Original) The method of Claim 6, wherein the shielding material is selected from ceramic, enamel, concrete or metal.

8. (Currently Amended) The method of Claim 6, wherein the amount of shielding material admixed with the chemical additive~~polymer~~-waste material admixture is in a ratio of from about 2 to 1.

9. (Currently Amended) The method of Claim 6, further wherein the admixture of the shielding material and the chemical additive~~polymer~~/waste material admixture is formed into a geometric shape having a volume per unit surface area wherein the alpha particle radiation has less surface area through which to leave the admixture.

10. (Previously Amended) The method of Claim 9, wherein the geometric shape is selected from a spherical shape or a cubic shape.

11. (Currently Amended) The method of Claim 6, further comprising applying a polymer sealant to an exterior of the admixture of shielding material and the

chemical additive polymer/waste material admixture to further prevent alpha particles from being emitted into the environment.

12. (Previously Amended) A method of reducing alpha particle radiation emissions from emitting from radioactive material-containing waste material comprising:

forming the waste material into a geometric shape having a volume per unit surface area, wherein the waste material has a smaller surface area thereby reducing the emissions of alpha particle radiation from the waste material.

13. (Original) The method of Claim 12, wherein the radioactive material is radon.

14. (Previously Amended) The method of Claim 12, wherein the geometric shape is selected from a spherical shape or a cubic shape.

15. (Original) The method of Claim 12, wherein the waste material is admixed with a shielding material prior to forming into the geometric shape.

16. (Original) The method of Claim 15, wherein the shielding material is selected from ceramic, enamel, concrete or metal.

17. (Original) The method of Claim 15, further comprising applying a polymer sealant to an exterior of the shielding material/waste material admixture to further prevent alpha particles from being emitted into the environment.

18. (Currently Amended) The method of Claim 15, wherein, subsequent to the admixing of the shielding material, a chemical additive polymer material selected from the group consisting of mineral oil, charcoal, activated carbon, and sulfur, is admixed with

the waste material to encapsulate the radioactive material within the chemical additive, the polymer wherein the polymer is not a super plasticizer and, wherein the polymer chemical additive prevents alpha particle-radiation from passing through the chemical additive.

19. (Cancelled).

20. (Currently Amended) The method of Claim 18, wherein the chemical additive polymer is added in an amount of from about 0.1 to about 30 percent by weight based on the amount of waste material.

21. (Currently Amended) The method of Claim 18, further comprising applying a polymer sealant to an exterior of the admixture of shielding material and the chemical additive polymer/waste material admixture to further prevent alpha particles from being emitted into the environment.

22. (Currently Amended) A method for preventing alpha particle radiation emissions from being emitted from radioactive material-containing waste material into an environment comprising:

forming a first admixture by admixing with the waste material a polymer chemical additive selected from the group consisting of mineral oil, charcoal, activated carbon, and sulfur, wherein the polymer is not a superplasticizer, with the waste material to form a first admixture wherein the chemical additive polymer encapsulates the radioactive material and prevents alpha particle radiation emissions from passing through the polymer;

admixing the first admixture with a shielding material to form a second admixture, wherein the first admixture is incorporated within the second admixture; and

forming the second admixture into a geometric shape having a volume per unit surface area, wherein the alpha particle radiation has less surface area through which to leave the second admixture.

23. (Original) The method of Claim 22, wherein the radioactive material is radon.

24. (Cancelled).

25. (Currently Amended) The method of Claim 22, wherein the chemical additive polymer is added in an amount of from about 0.1 to about 30 percent by weight based on the amount of waste material.

26. (Original) The method of Claim 22, wherein the shielding material is selected from ceramic, enamel, concrete or metal.

27. (Currently Amended) The method of Claim 22, wherein the amount of shielding material admixed with the chemical additive polymer-waste material admixture is in a ratio of from about 2 to 1.

28. (Previously Amended) The method of Claim 22, wherein the geometric shape is selected from a spherical shape or a cubic shape.

29. (Original) The method of Claim 22, further comprising applying a polymer sealant to an exterior of the second admixture of shielding material and the

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polymer/waste material admixture to further prevent alpha particles from being emitted into the environment.

30. (Cancelled).